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1651

Practitioner's Docket No. MSU 4.1-541 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK FFICE

In re application of: Muraleedharan G. Nair, Haibo Wang, Gale M. Strasburg, Alden M. Booren, and James I. Gray
Application No.: 09/761,143 Group No.: 1651
Filed: 2001 January 16 Examiner: Patricia A. Patten
For: METHOD FOR INHIBITING CYCLOOXYGENASE AND INFLAMMATION USING CYANIDIN

Assistant Commissioner for Patents
Washington, D.C. 20231

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TRANSMITTAL OF APPEAL BRIEF
(PATENT APPLICATION—37 C.F.R. § 1.192)

1. Transmitted herewith, in triplicate, is the APPEAL BRIEF in this application, with respect to the Notice of Appeal filed on 3/06/02.

NOTE: "Appellant must, within two months from the date of the notice of appeal under § 1.191 or within the time allowed for reply to the action from which the appeal was taken, if such time is later, file a brief in triplicate. . . " 37 C.F.R. § 1.192(a) (emphasis added).

2. STATUS OF APPLICANT

This application is on behalf of

- ☒ other than a small entity.
- ☐ a small entity.

A statement:

- ☐ is attached.
- ☐ was already filed.

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 C.F.R. § 1.17(c), the fee for filing the Appeal Brief is:

☐	small entity	$ 160.00
☒	other than a small entity	$ 320.00

Appeal Brief fee due $ 320

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. § 1.8(a))

I hereby certify that this correspondence is, on the date shown below, being:

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Date: 4/26/02

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Tammi L. Taylor
Signature

Tammi L. Taylor
(type or print name of person certifying)

4. EXTENSION OF TERM

NOTE: The time periods set forth in 37 C.F.R. § 1.192(a) are subject to the provision of § 1.136 for patent applications. 37 C.F.R. § 1.191(d). See also Notice of November 5, 1985 (1060 O.G. 27).

NOTE: As the two-month period set in § 1.192(a) for filing an appeal brief is not subject to the six-month maximum period specified in 35 U.S.C. § 133, the period for filing an appeal brief may be extended up to seven months. 62 Fed. Reg. 53,131, at 53,156; 1203 O.G. 63, at 84 (Oct. 10, 1997).

The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136 apply.

(complete (a) or (b), as applicable)

(a) ☐ Applicant petitions for an extension of time under 37 C.F.R. § 1.136 (fees: 37 C.F.R. § 1.17(a)(1)-(5)) for the total number of months checked below:

Extension (months)	Fee for other than small entity	Fee for small entity
☐ one month	$ 110.00	$ 55.00
☐ two months	$ 390.00	$ 195.00
☐ three months	$ 890.00	$ 445.00
☐ four months	$ 1,390.00	$ 695.00
☐ five months	$ 1,890.00	$ 945.00

Fee: $_____

If an additional extension of time is required, please consider this a petition therefor.

(check and complete the next item, if applicable)

☐ An extension for _____ months has already been secured, and the fee paid therefor of $_____ is deducted from the total fee due for the total months of extension now requested.

Extension fee due with this request $_____

or

(b) ☒ Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

5. TOTAL FEE DUE

The total fee due is:

Appeal brief fee $ 320

Extension fee (if any) $ -0-

TOTAL FEE DUE $ 320

6. FEE PAYMENT

☒ Attached is a ☒ check ☐ money order in the amount of $ 320

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A duplicate of this paper is attached.

7. FEE DEFICIENCY

NOTE: If there is a fee deficiency and there is no authorization to charge an account, additional fees are necessary to cover the additional time consumed in making up the original deficiency. If the maximum six-month period has expired before the deficiency is noted and corrected, the application is held abandoned. In those instances where authorization to charge is included, processing delays are encountered in returning the papers to the PTO Finance Branch in order to apply these charges prior to action on the cases. Authorization to change the deposit account for any fee deficiency should be checked. See the Notice of April 7, 1986, *1065 O.G. 31-33.*

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MSU 4.1-541
04/26/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Muraleedharan G. Nair, Haibo Wang, Gale M. Strasburg, Alden M. Booren, and James I. Gray

Serial No.: 09/761,143 Group Art Unit: 1651

Filed : 2001 January 16

For : METHOD FOR INHIBITING CYCLOOXYGENASE AND INFLAMMATION USING CYANIDIN

Examiner : Patricia A. Patten

BOX APPEALS

Commissioner of Patents and Trademarks

Washington, D.C. 20231

APPEAL BRIEF UNDER 37 C.F.R. § 1.192

Sir:

This is an appeal from a final rejection in the above entitled application. The claims on appeal are set forth as Appendix A. An oral hearing will be requested. Enclosed are three (3) copies of this Brief and the fee due upon filing of the Brief.

(1) Real Party in Interest

The real party in interest is the Board of Trustees operating Michigan State University, East Lansing, Michigan, a constitutional corporation of the State of Michigan, which is the assignee of the above

entitled application.

(2) Related Appeals and Interferences

Attached is Appendix B which shows in a chart the related applications.

The instant Application Serial No. 09/761,143 on appeal is a divisional application of Application Serial No. 09/337,313 ('313), filed June 21, 1999. The '313 application issued as U.S. Patent No. 6,194,469 ('469) and claims a method of inhibiting cyclooxygenase and inflammation using cherry bioflavonoids.

Application Serial No. 09/749,856 ('856), filed January 16, 2000, is a continuation of the '469 patent. The '856 application is under appeal and claims a method of inhibiting cyclooxygenase and inflammation using cherry bioflavonoids.

The '469 patent is a continuation-in-part of Application Serial No. 09/317,310 ('310), filed May 24, 1999. The '310 application is on appeal and claims a method of inhibiting cyclooxygenase and inflammation using cherry bioflavonoids.

Application Serial No. 09/383,324 ('324), filed August 26, 1999, is a continuation-in-part of the '310 application. The '324 application is on appeal and claims a method for producing compositions and nutraceutical compositions having antioxidant and anti-

inflammatory activity from an edible berry.

Application Serial No. 09/678,587 ('587), filed October 3, 2000, is a divisional application of the '324 application. The '587 application is on appeal and claims a method and compositions having antioxidant and anti-inflammatory activity from an edible berry.

There are no interferences pending.

(3) Status of Claims

Claims 1, 3, 4, 5, 6, 15, 16, 17, 18, 27, 28, 29, 30, and 34 are pending. No claims have been allowed.

(4) Status of Amendments

An Amendment After Final, which was filed January 28, 2002, was entered upon filing the Notice of Appeal.

(5) Summary of Invention

The applicants' invention provides a method for inhibiting cyclooxygenase enzymes and inflammation in a mammal using compositions comprising cyanidins and anthocyanins isolated from cherries.

In particular, the applicants' provide a method for inhibiting cyclooxygenase or prostaglandin H synthase enzymes (page 5, lines 13-15) which comprises

providing a mixture of cyanidin (page 5, line 35; page 4, lines 2-7, 16-19) and an anthocyanin, which is hydrolyzable to cyanidin (page 15, lines 16-18), so that the cyanidin and anthocyanin inhibit the enzymes (Example 4, Figures 7 and 8). Cherries contain cyanidins and anthocyanins (sentence bridging pages 2-3) and Examples 1 and 2 and Example 4 read together teach that a mixture of cyanidins and anthocyanins are isolated together using the isolation method taught in Examples 1 and 2.

In a further embodiment of the above method, the method is performed *in vitro* (page 6, lines 11-12) or *in vivo* (page 6, lines 9-11).

In a further still embodiment of the above method, the mixture is from a tart cherry or from a sweet cherry (page 8, lines 19-20).

In a further still embodiment of the above method, the mixture is incorporated into a food (page 10, lines 29-31; page 11, lines 3-5).

The applicants further provide a method for inhibiting cyclooxygenase or prostaglandin H synthase enzymes (page 5, lines 13-15) which comprises providing a mixture of cyanidin (page 5, line 35; page 4, lines 2-7, 16-19) and an anthocyanin, which is hydrolyzable to cyanidin (page 15, lines 16-18), in a composition which comprises a dried mixture of bioflavonoids and phenolics

from the cherries (page 8, lines 27-30; sentence bridging 10-11; sentence bridging 12-13; page 13, lines 4-8) and a food grade carrier (page 10, lines 26-29; page 13, lines 27-28) so that the cyanidin and anthocyanin inhibit the enzymes (Example 4, Figures 7 and 8).

In a further embodiment of the above method, the carrier is dried cherry pulp (page 10, line 29; page 13, lines 27-28; page 14, lines 24-25).

In a further still embodiment of the above method, the ratio of dried mixture to carrier is between about 0.1 to 100 and 100 to 0.1 (page 10, lines 34-36; sentence bridging pages 10-11).

Further still, the applicants provide a method for inhibiting inflammation in a mammal (page 5, lines 23-25, 28-30, 33-34) which comprises administering to the mammal a mixture of cyanidin (page 5, line 35) and an anthocyanin, which is hydrolyzable to cyanidin (page 15, lines 16-18), so that the mixture inhibits the inflammation (page 5, lines 23-25, 28-30, 33-34).

In a further embodiment of the above method, the mixture is from a tart cherry or a sweet cherry (page 8, lines 19-20).

In a further still embodiment of the above method, the mammal is human (page 6, lines 10-11).

Further still, the applicants provide a method

for inhibiting inflammation in a mammal (page 5, lines 23-25, 28-30, 33-34) which comprises administering to the mammal a mixture of cyanidin (page 5, line 35) and an anthocyanin, which is hydrolyzable to cyanidin (page 15, lines 16-18), selected from the group consisting of cyanidin-3-glucosylrutinoside, cyanidin-3-rutinoside, or cyanidin-3-glucoside, and mixtures thereof (Figure 1; page 3, lines 3-6) so that the mixture inhibits the inflammation (page 5, lines 23-25, 28-30, 33-34).

(6) Issues

(a) Claims 1, 3 to 6, 15 to 18, 27 to 30, and 34 were rejected under 35 U.S.C. § 112, first paragraph.

In a preliminary amendment submitted with the application, Claim 1 was amended to call for a method that uses cyanidin and Claim 27 was introduced to call for a method that used at least cyanidin. In Paper No. 7, Claims 1 and 27 were amended to call for a mixture of cyanidin and an anthocyanin. The rejection states that the mixture of cyanidin and an anthocyanin added by the amendment is new matter because the particular mixture cannot be found in the specification. In other words, the specification is not enabling for such a mixture.

(b) Claims 1, 3 to 6, 15 to 18, 27 to 30, and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lietti *et al.* (GB 1,598,294) in view

of Wurm *et al.* (1982).

The rejection states that because Lietti teaches that anthocyanins and specifically cyanidin possess anti-inflammatory activities and Wurm teaches that "all flavonoids . . . are prostaglandin synthase (PGS) inhibitors . . .," it would have been *prima facie* obvious to one of ordinary skill in the art to combine anthocyanins and cyanidin into a mixture for inhibiting prostaglandin synthesis and/or cyclooxygenase activity.

(7) Grouping of Claims

For purposes of this appeal, the claims have been separated into the following patentably separate groups.

Group I consists of Claims 1, 3, 4, 5, and 6, which relate to a method for inhibiting cyclooxygenase or prostaglandin synthase enzymes with a mixture of cyanidin and an anthocyanin, which is hydrolyzable to cyanidin. Claims 1, 3, 4, 5, and 6 stand or fall together.

Group II consists of Claims 15, 16, and 17, which relate to a method for inhibiting cyclooxygenase or prostaglandin synthase enzymes with a mixture of cyanidin and an anthocyanin, which is hydrolyzable to cyanidin, contained in a composition which comprises a dried mixture of bioflavonoids and phenolics from

cherries and a food grade carrier. Claims 15, 16, and 17 stand or fall together.

Group III consists of Claims 27, 28, 29, and 30, which relate to a method for inhibiting inflammation with a mixture of cyanidin and an anthocyanin, which is hydrolyzable to cyanidin. Claims 27, 28, 29, and 30 stand or fall together.

Group IV consists of Claim 18, which relates to a method for inhibiting cyclooxygenase or prostaglandin synthase enzymes with a mixture of cyanidin and an anthocyanin, which is hydrolyzable to cyanidin, incorporated into a food. Claim 18 stands or falls on its own.

Group V consists of Claim 34, which relates to a method for inhibiting inflammation with a mixture of cyanidin and an anthocyanin, which is hydrolyzable to cyanidin, selected from the group consisting of cyanidin-3-glucosylrutinoside, cyanidin-3-rutinoside, or cyanidin-3-glucoside, and mixtures thereof. Claim 34 stands or falls on its own.

(8) Argument

(a) Claims 1, 3 to 6, 15 to 18, 27 to 30, and 34 were rejected under 35 U.S.C. § 112, first paragraph.

The applicants disagree that amending Claims 1 and 27 from a method which uses "cyanidin" to a method

which uses a "mixture of cyanidin and an anthocyanin" introduced new matter into the claims which is not enabled by the specification.

The specification is enabling for a "mixture of cyanidin and an anthocyanin" as identified by the following disclosures found in the specification:

1) Claim 21, as originally filed, is directed to a method for inhibiting inflammation which comprises administering anthocyanin including cyanidin.

2) The sentence bridging pages 2 and 3 of the specification states that both cyanidin and anthocyanins have been reported to be found in cherries.

3) Examples 1 and 2 teach a method for isolating anthocyanins in a mixture that includes bioflavonoids and phenolics from cherry juice (pages 12-14).

4) Example 4 teaches that cyanidins can also be made *in vitro* by hydrolyzing anthocyanins and then purifying the cyanidins in the same manner as is used for isolating anthocyanins from cherry juice (page 16, lines 17-23).

As shown by these disclosures, applicants contemplated that the mixture of compounds that could be obtained from cherries would include both anthocyanins and

cyanidin. Furthermore, it was contemplated that these compounds either individually or in a mixture would be used to inhibit inflammation or the COX enzymes as evidenced by originally filed Claims 1 and 7 which were directed to methods for inhibiting the COX enzymes or inflammation respectively by providing at least one compound isolatable from a cherry. The Examiner states that "one of skill in the art would need to guess exactly what anthocyanin the claim is referring to lacking clear guidance within the instant specification as filed". Applicants respectfully disagree with this statement since the specification clearly teaches which anthocyanins were found to be effective in inhibiting the COX enzymes or inflammation (see Example 4).

In support of the § 112 rejection, the Examiner further states that the limitation "which is hydrolyzable to cyanidin" as it relates to anthocyanins "does not change the meets and bounds of the term anthocyanins because all anthocyanins are degraded *in vivo* to cyanidin as taught by Applicants". While applicants agree that a statement that teaches that anthocyanins are hydrolyzed in the gut to cyanidin occurs within the specification, this does not alter the fact that an anthocyanin is a different compound that functions within a mammal differently than a cyanidin. Because an anthocyanin which has been hydrolyzed to

cyanidin may function differently within a mammal or result in a different effect than cyanidin alone, it cannot be said that this limitation has no effect on the term anthocyanin.

In view of the disclosures in the specification related to both anthocyanins and cyanidin, applicants respectfully submit that the use of this particular mixture is enabled by the specification and should not be considered to be new matter. Reversal of this rejection is requested.

(b) Claims 1, 3 to 6, 15 to 18, 27 to 30, and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lietti in view of Wurm.

The applicants disagree that Lietti and Wurm would have rendered the applicants' claimed invention, a mixture of cyanidin and an anthocyanin, which is hydrolyzable to cyanidin, for inhibiting cyclooxygenases or prostaglandin H synthase enzymes or treating inflammation, *prima facie* obvious to one of ordinary skill in the art.

Wurm discloses several species of flavonoids (bioflavonoids) which inhibit prostaglandin synthesis and thereby have an anti-inflammatory effect. Flavonoids have the general structure shown in Figures 1 and 6 of Wurm or Figure 2 of the instant application.

The rejection states that Figure 6 of Wurm shows the structure of cyanidin. Figure 6 does not show the structure of cyanidin. A feature that distinguishes the flavonoids illustrated in Figure 6 of Wurm from the claimed cyanidins is that the illustrated flavonoids contain a hydroxy group at the C-6 position; whereas the claimed cyanidin does not have a hydroxy group at the C-6 position but rather has a hydroxy group at the C-5 position. Thus, Wurm is limited to various species of flavonoids and has nothing to do with cyanidins or anthocyanins. Therefore, Wurm has nothing to do with the subject matter of any of the applicants' claims. Furthermore, with respect to Claims 15 to 16, which do recite a composition comprising flavonoids, Wurm does not suggest that flavonoids be mixed with cyanidin and an anthocyanin, which is hydrolyzable to cyanidin, to produce a composition for inhibiting cyclooxygenases or prostaglandin H synthase enzymes.

While Lietti discloses that cyanidins (referred to as anthocyanidines in Lietti) have an anti-inflammatory activity, Lietti does not disclose that cyanidins have any effect on cyclooxygenase or prostaglandin H synthase enzymes. The compositions disclosed in Lietti consist of cyanidins prepared by hydrolyzing anthocyanins isolated from the fruits of the bilberry (similar to a blueberry), vine (includes

grapes), elder, currant, bramble (includes blackberry), or raspberry to make cyanidins and then admixing the cyanidins with pharmaceutically acceptable excipients to use for inhibiting inflammation. Lietti does not disclose that cyanidins or anthocyanidins can be isolated from cherries as taught by the applicants.

The applicants teach that anthocyanins are hydrolyzed in the gut to cyanidins (page 15, lines 16-18) which would make compositions for inhibiting cyclooxygenases or prostaglandin H synthase enzymes or inflammation that comprise anthocyanins particularly useful when orally administered to a mammal. Lietti does not teach that anthocyanin is hydrolyzed in the gut to cyanidin. Therefore, in view of Lietti, one of ordinary skill in the art would not have been motivated to mix cyanidin with an anthocyanin, which is hydrolyzable to cyanidin, to provide a mixture for inhibiting inflammation as set forth in Claims 27 to 30 or for inhibiting cyclooxygenase or prostaglandin H synthase enzymes as set forth in Claims 1 and 3 to 6 or that the mixture be included in a food as set forth in Claim 18.

Furthermore, Lietti neither discloses a mixture comprising the particular anthocyanins of Claim 34 nor suggests as set forth in Claims 15 to 17 that flavonoids be mixed with cyanidin and an anthocyanin,

which is hydrolyzable to cyanidin, in a food grade carrier to provide a composition for inhibiting cyclooxygenases or prostaglandin H synthase enzymes.

While neither prior art reference on its own would have rendered the applicants' invention *prima facie* obvious, the combination of prior art references also would not have rendered the applicants' claimed invention *prima facie* obvious. M.P.E.P. § 706.02(j) sets forth the criteria that must shown to establish that a claimed invention is *prima facie* obvious in view of a combination of prior art references. To establish *prima facie* obviousness, it must be shown that (1) there is some suggestion or motivation, either in the prior art references or the general knowledge of one of ordinary skill in the art to combine the reference teachings, (2) there is a reasonable expectation of success if the teachings of the prior art references were combined, and (3) the combined prior art references must teach or suggest all of the claim limitations. It is particularly important to show that there is some reason why one of ordinary skill in the art, with no knowledge of the claimed invention, would have selected the particular prior art references and combined them to render the claimed invention obvious. The case law has repeatedly insisted on such a showing (*See* In re Sang Su Lee, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002), for a brief

review of the case law).

In the present case, one of ordinary skill in the art, in the absence of knowledge of the applicants' invention, would have had no motivation to combine Wurm and Lietti for the purpose of producing a treatment for inflammation which would comprise a mixture of cyanidin and an anthocyanin, which is hydrolyzable to cyanidin. As stated above, Wurm is limited solely to the inhibitory effect of particular flavonoids on cyclooxygenase and prostaglandin H synthase enzymes and Lietti is limited solely to the use of cyanidin for inhibiting inflammation. While one of ordinary skill in the art would have known that cyclooxygenase and prostaglandin H synthase enzymes have a role in inflammation and inhibiting the enzymes will inhibit many forms of inflammation, the artisan in view of Wurm and Lietti would not have considered treating inflammation with a mixture of cyanidin and an anthocyanin based on the disclosures of the prior art.

Furthermore, while the Lietti states that fruits contain glycosides of cyanidins (anthocyanins), Lietti does not suggest whether the fruits contain both anthocyanins and cyanidins. Therefore, in view of the combination of prior art references, one of ordinary skill in the art might not have known that cherries contain both cyanidins and anthocyanins of which both

can be used in a composition for inhibiting cyclooxygenases or prostaglandin H synthase enzymes (Claims 1, 3, 4 to 6, and 18) and which can be used for treating inflammation (Claims 27 to 30). In particular, one of ordinary skill in the art would not have known that a mixture of cyanidin and the particular anthocyanins of Claim 34 could be used for treating inflammation.

While Lietti discloses compositions comprising cyanidin which can be administered orally, the form of the cyanidin-containing compositions is that of tablets, capsules, solutions, or suspensions. The combination of prior art references does not suggest that the cyanidin-containing compositions comprise a food grade carrier or be a component of a food. Therefore, the combination of prior art references would not have suggested to one of ordinary skill in the art that the applicants' claimed mixture of cyanidin and an anthocyanin be a component of a food as set forth in Claim 18, or as a component of a food grade carrier as set forth in Claims 15 to 17.

Furthermore, Wurm states on page 14 of the English translation that most bioflavonoids are resorbed poorly and are quickly decomposed by the intestinal flora. In light of Wurm, one of ordinary skill in the art might conclude that orally administering a

composition comprising bioflavonoids would be an ineffective way to provide the bioflavonoids. Therefore, the combination of prior art references would not have suggested to one of ordinary skill in the art the applicants' claimed mixture of cyanidin and an anthocyanin further comprising a dried mixture of bioflavonoids and phenolics from cherries and a food grade carrier as set forth in Claims 15 to 17.

In light of the above, the combination of prior art references does not suggest to one of ordinary skill in the art the desirability of the applicants' claimed invention. Because the prior art references relate to either cyanidins (*See* Lietti) or bioflavonoids (*See* Wurm), and the combination of prior art references would not have suggested the applicants' claimed invention comprising at a minimum cyanidin and an anthocyanin, one of ordinary skill in the art would not have been motivated to select the prior art references and combine them for the purpose of providing the applicants' claimed invention.

Therefore, Claims 1, 3 to 6, 15 to 18, 27 to 30, and 34 would not have been *prima facie* obvious in view of the combination of prior art references. Reversal of the rejection is requested.

(9) Conclusion

Claims 1, 3 to 6, 15 to 18, 27 to 30, and 34 comply with the requirements of 35 U.S.C. § 112, first paragraph. Amending Claims 1 and 27 from a method that uses "cyanidin" to a method that uses a "mixture of cyanidin and an anthocyanin" did not introduce new matter to the claims. Such mixtures of cyanidin and an anthocyanin are enabled by the specification.

The combination of prior art references (Lietti and Wurm) does not render Claims 1, 3 to 6, 15 to 18, and 27 to 34 *prima facie* obvious. Lietti is concerned with compositions which contain cyanidins for inhibiting inflammation and Wurm is concerned with bioflavinoids which inhibit cyclooxygenases. The combination of prior art references neither discloses nor suggests any of the embodiments of the applicants' claimed invention.

In particular, the prior art does not render *prima facie* obvious the applicants' method for inhibiting cyclooxygenases or prostaglandin H synthase enzymes comprising a mixture of cyanidin and an anthocyanin, which is hydrolyzable to cyanidin, (Claims 1, 3, 4 to 6), particularly, the applicants' method wherein the mixture further includes bioflavonoids and phenolics from cherries in a food grade carrier (Claims 15 to 17) or incorporated into a food (Claim 18), or the applicants' method for inhibiting inflammation

comprising a mixture of cyanidin and an anthocyanin, which is hydrolyzable to cyanidin (Claims 27, 28, 29, and 30), particularly, the applicants' method wherein the anthocyanin is selected from the group consisting of cyanidin-3-glucosylrutinoside, cyanidin-3-rutinoside, or cyanidin-3-glucoside, and mixtures thereof (Claim 34).

Reversal of the above rejections and remand to the Examiner for allowance of the application is requested.

Respectfully,

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APPENDIX A

-1-

A method for inhibiting cyclooxygenase or prostaglandin H synthase enzymes which comprises:

providing a mixture of cyanidin and an anthocyanin which is hydrolyzable to cyanidin so that the cyanidin and anthocyanin inhibit the enzymes.

-3-

The method of Claim 1 wherein the method is *in vitro*.

-4-

The method of Claim 1 wherein the method is *in vivo*.

-5-

The method of Claim 1 wherein the mixture is from a tart cherry.

-6-

The method of Claim 1 wherein the mixture is from a sweet cherry.

-15-

The method of Claim 1 wherein the mixture of cyanidin and anthocyanin is contained in a composition which comprises a dried mixture of bioflavonoids and phenolics from the cherries and a food grade carrier.

-16-

The method of Claim 15 wherein the carrier is dried cherry pulp.

-17-

The method of Claim 15 wherein a ratio of dried mixture to carrier is between about 0.1 to 100 and 100 to 0.1.

-18-

The method of Claim 1 wherein the compound is incorporated into a food.

-27-

A method for inhibiting inflammation in a mammal which comprises:

administering to the mammal a mixture of cyanidin and an anthocyanin which is hydrolyzable to cyanidin so that the mixture inhibits the inflammation.

-28-

The method of Claim 27 wherein the mixture is from a tart cherry.

-29-

The method of Claim 27 wherein the mixture is from a sweet cherry.

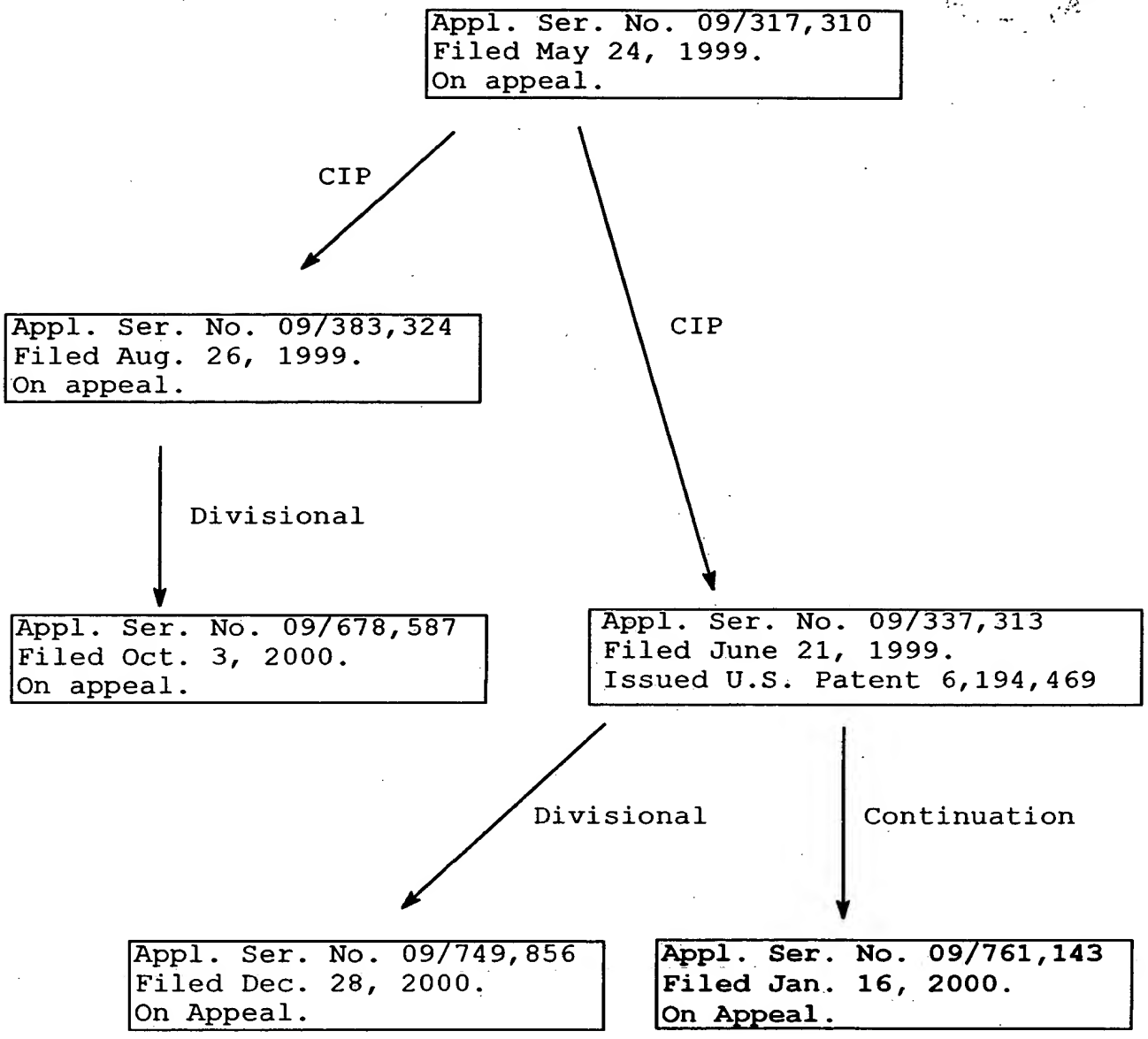
-30-

The method of Claim 27 wherein the mammal is human.

-34-

The method of Claim 27 wherein the anthocyanin is selected from the group consisting of cyanidin-3-glucosylrutinoside, cyanidin-3-rutinoside, or cyanidin-3-glucoside, and mixtures thereof.

APPENDIX B


Appl. Ser. No. 09/317,310
Filed May 24, 1999.
On appeal.
CIP
CIP
Appl. Ser. No. 09/383,324
Filed Aug. 26, 1999.
On appeal.
Divisional
Appl. Ser. No. 09/678,587
Filed Oct. 3, 2000.
On appeal.
Appl. Ser. No. 09/337,313
Filed June 21, 1999.
Issued U.S. Patent 6,194,469
Divisional
Continuation
Appl. Ser. No. 09/749,856
Filed Dec. 28, 2000.
On Appeal.
Appl. Ser. No. 09/761,143
Filed Jan. 16, 2000.
On Appeal.